

WHAT IS CLAIMED IS:

1. An improved sanitaryware casting method, comprising the steps of:

5 providing at least one shell mold selected from a plurality of shell molds, each said shell mold having a casting space for casting a unique sanitaryware shell configuration thereby, said shell having a hollow housing space for disposition of a unique sanitaryware performance engine configuration therewithin;

10 providing at least one engine mold selected from a plurality of engine molds, each said engine mold having a casting space for a unique performance engine configuration thereby;

15 providing at least one rim mold selected from a plurality of rim molds, each said rim mold having a casting space for casting a unique sanitaryware rim configuration thereby;

separately casting said shell, engine and rim in said selected configurations;

20 disposing said engine in said shell housing space to form at least one shell and engine assembly; and

25 assembling said rim with said shell and engine assembly to form at least one shell, engine and rim assembly such that, upon firing, said shell, engine and rim assembly forms a single integral piece of sanitaryware therefrom.

2. A method according to claim 1, wherein each said shell configuration includes a rim portion to accommodate placement of said rim thereadjacent, a base portion for securement to a support surface and a peripheral surface wall having an exterior surface
30 that defines said shell's external contour and an interior surface that defines said shell housing space's internal contour and parameters.

3. A method according to claim 2, further comprising the step of glazing said exterior surface of said peripheral surface wall after said shell casting step.
4. A method according to claim 3, wherein a glaze applied during said glazing step is selected to provide said shell with one or more properties of color, contour, texture, sheen and any combination thereof.
5. A method according to claim 2, wherein each said engine configuration includes a rim portion that is generally coplanar with said shell rim portion and that, along with said shell rim portion, accommodates placement of said rim thereadjacent, a bowl portion having a complementary contour relative to that of said peripheral surface wall, and a trapway portion in communication with a fluid inlet and a fluid outlet contiguous therewith.
6. A method according to claim 1, further comprising the step of applying a special ceramic sticking compound to said shell prior to said disposing step, after which said applying step said engine is inserted thereinto.
7. A method according to claim 1, further comprising the step of applying a special ceramic sticking compound to one or both of said shell and engine rim portions prior to said rim assembling step.
8. A method for casting a plurality of sanitaryware designs from interchangeable elements, comprising the steps of:
- providing a series of shell molds, each said shell mold having a casting space for casting a unique sanitaryware shell configuration thereby, said shell having a hollow housing space for disposition of a sanitaryware performance engine therewithin;
- providing a series of engine molds, each said engine mold having a casting space for casting a unique performance engine configuration thereby;

providing a series of rim molds, each said rim mold having a casting space for casting a unique sanitaryware rim configuration thereby;

selecting at least one configuration from each series of said shell configurations,
5 said performance engine configurations and said rim mold configurations;

separately casting said shell, engine and rim in said selected configurations;

disposing said cast engine in said shell housing space to form at least one shell
10 and engine assembly thereby;

assembling said cast rim with said shell and engine assembly to form at least one
shell, engine and rim assembly such that, upon firing, said shell, engine and rim assembly
forms a single integral piece of sanitaryware; and
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repeating one or more of said steps until a predetermined number of said
sanitaryware designs is produced thereby.

9. A method according to claim 8, wherein said selection step includes selection of
20 more than one configuration from one or more of said shell configurations, said engine
configurations and said rim configurations.

10. A method according to claim 8, wherein said selected shell, engine and rim
configurations are interchangeable with non-selected shell, engine and rim
25 configurations.

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11. A system for manufacturing a plurality of toilet models, comprising:

at least one of a shell, engine and rim configuration for a toilet, said configuration being selected from a plurality of shell, engine and rim configurations defined by a corresponding plurality of shell, engine and rim molds, each said mold defining a casting space therewithin for casting said selected configuration therefrom;

a series of casting stations defining a casting sequence, each said station to perform one specific casting step; and

means for sequentially directing said selected configuration to at least one station selected from said series of stations where at least one casting step is performed at said at least one selected casting station;

wherein said sequential directing and casting is repeatedly performed until a predetermined number of toilets is obtained thereby.

12. A system according to claim 11, wherein said series of stations includes a shell casting station for using said shell mold to cast said selected shell configuration, each said shell configuration having a hollow housing space for disposition of said engine configuration therewithin, a rim portion to accommodate placement of said rim thereadjacent, a base portion for securement to a support surface and a peripheral surface wall having an exterior surface that defines said shell's external contour and an interior surface that defines said shell housing space's internal contour and parameters.

13. A system according to claim 12, wherein said series of stations includes an engine casting station for using said engine mold to cast said selected engine configuration, each said engine configuration including a rim portion that is generally coplanar with said shell rim portion and that, along with said shell rim portion, accommodates placement of said rim thereadjacent, a bowl portion having a complementary contour relative to that of

said peripheral surface wall and a trapway portion in communication with a fluid inlet and a fluid outlet contiguous therewith.

14. A system according to claim 13, wherein said series of stations includes a mold
5 casting station for using said rim mold to cast said selected rim configuration, each said rim configuration including an exterior periphery and an interior periphery together defining an aperture therethrough, said exterior and interior peripheries together defining opposing upper and lower rim surfaces, respectively, therebetween.

10 15. A system according to claim 14, wherein a peripheral protrusion may extend from said lower rim surface for mating with said shell rim portion and said engine rim portion and providing additional securement thereby.

16. A system according to claim 14, wherein said series of stations includes an
15 application station for applying sticking compound to one or more of said cast shell, engine and rim.

17. A system according to claim 16, wherein said series of stations includes a first
20 assembly station for assembling said cast shell and engine to provide at least one shell and engine assembly from said selected shell and engine configurations.

18. A system according to claim 17, wherein said series of stations includes a second
assembly station for assembling said at least one cast rim with said at least one shell and engine assembly.

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19. A system according to claim 18, wherein said series of stations includes a
finishing station having means for treating one or more of said shell, engine and rim with one or more finishes of selected color, contour, texture, sheen or any combination thereof.

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20. A system according to claim 19, wherein said finishing station includes means for treating one or more of said shell, engine and rim with anti-bacterial, biocidal, deodorant, odor suppressing, anti-viral and/or algicidal agents.

5 21. A system according to claim 18, wherein said series of stations includes a firing station having means for firing said cast elements to derive single-piece toilets thereby.

22. A system according to claim 11, wherein any selected configuration of said shell, engine and rim configurations is interchangeable with any corresponding non-selected
10 configuration of said shell, engine and rim configurations.

23. A system according to claim 22, wherein any selected configuration of said shell, engine and rim configurations can be combined accordingly with any non-selected configuration of said shell, engine and rim configurations.

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